

***Commonwealth of Virginia  
Department of Environmental Quality***

***Request for Redesignation***

***To Attainment***

***For The***

***Hampton Roads Nonattainment Area  
Consisting Of The Cities of Chesapeake,  
Hampton, Newport News, Norfolk,  
Poquoson, Portsmouth, Suffolk, Virginia  
Beach, and Williamsburg, and The  
Counties of Gloucester, Isle of Wight,  
James City, and York.***

***Final***

***October 16, 2006***

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# Commonwealth of Virginia

## Request for the Redesignation of the Hampton Roads 8-hour Ozone Nonattainment Area to Attainment

### 1. Introduction

Based on an analysis of air quality monitoring data, source emission reduction information, and the existing federal and state regulatory programs, the Commonwealth of Virginia has determined that the Hampton Roads 8-hour ozone nonattainment area qualifies for redesignation to attainment. The maintenance plan, which includes a mobile source budget, has also been developed in order for the acceptable ozone level to continue. Technical information and more detail on emission calculations may be found in the Technical Support Document.

The primary goals of the federal Clean Air Act are the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) and the prevention of significant deterioration of air quality in areas cleaner than the NAAQS.

The NAAQS, developed and promulgated by the U.S. Environmental Protection Agency (EPA), establish the maximum limits of pollutants that are allowed in the outside ambient air. EPA requires that each state submit a plan (called the State Implementation Plan or SIP), including any laws and regulations necessary to enforce the plan, that shows how the air pollution concentrations will be reduced to levels at or below these standards (attainment). Once pollution levels are within the standards, the SIP must also demonstrate how the state will maintain the air pollution concentrations at the reduced levels (maintenance).

A SIP is the key to the state's air quality programs. The Clean Air Act is specific concerning the elements required for an acceptable SIP. No state is required to prepare such a plan; but if it does not, or EPA does not approve a submitted plan, then EPA is empowered to take the necessary actions to attain and maintain the air quality standards.

The initial Virginia SIP submittal was made in 1972; subsequent submittals are revisions to the SIP. Many revisions to the SIP have been made since the original submittal in 1972. Generally, a SIP is revised, as needed, based upon changes in air quality or statutory requirements. For the most part the SIP has worked, and the standards have been attained for most pollutants in most areas. However, attainment of the NAAQS for one pollutant--ozone--has proven problematic. While ozone is needed at the earth's outer atmospheric layer to protect us from the sun's ultraviolet and other harmful rays, excess concentrations at the surface have an adverse effect on animal and plant life. Ozone is formed by a chemical reaction between volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>) in the presence sunlight. When VOC and NO<sub>x</sub> emissions are reduced, ozone is reduced.

Congress enacted the 1977 Amendments to the Clean Air Act in order to address unsuccessful SIPs and areas that had not attained the NAAQS (nonattainment areas). Although SIP revisions submitted pursuant to the requirements of the 1977 amendments did achieve some progress in eliminating nonattainment areas, some areas remained.

In 1990 Congress again enacted Amendments to the Act to address SIP requirements for nonattainment areas. The new Act established a process for evaluating the air quality in each region and identifying and classifying each nonattainment area according to the severity of its air pollution problem, from marginal to extreme, with marginal areas having the least stringent requirements and extreme areas having the most. The Act required EPA, based on the air quality data from each state, to propose geographic boundaries and pollution classification levels for all nonattainment areas to each state's governor. If states disagreed with EPA's proposals, they had the opportunity to propose different boundaries; however, EPA had the authority to make the final decision.

Each state was then obligated to submit a SIP demonstrating how it would attain the NAAQS in each nonattainment area. The Act requires that certain specific control measures be implemented and scheduled reductions be made in each nonattainment area.

## **2. Previous Planning Requirements**

Under the 1-hour ozone standard requirements, the Hampton Roads area was originally designated a marginal nonattainment area. The area's air quality improved, and a redesignation request and maintenance plan were sent to EPA and approved on June 26, 1997. See Section 5.2.2.1 below. This maintenance plan contained area wide emissions caps, mobile source budgets, and contingency measures. Additionally, this maintenance plan needs to be updated and resubmitted approximately 10 years after approval.

Along with this request for approval of an 8-hour maintenance plan for the Hampton Roads area, the Commonwealth is requesting that all portions of the 1-hour maintenance plan be superseded with the requirements listed in the 8-hour maintenance plan. This request includes the removal of the obligation to implement the 1-hour ozone contingency plan upon a violation of the 1-hour ozone standard for the Hampton Roads area. Once EPA approves the 8-hour ozone contingency plan, the need for contingency measures will be activated only in the event that a violation of the 8-hour ozone standard occurs at a monitor located in the Hampton Road monitoring network.

The Commonwealth is also requesting that the area wide emissions caps and mobile source budgets listed in the 1-hour ozone maintenance plan be superseded with the area wide emissions caps and mobile source budgets listed in the 8-hour ozone maintenance plan.

Lastly the Commonwealth is requesting that EPA approve the 8-hour maintenance plan as meeting the requirements of CAA section 175(A)b with respect to the 1-hour ozone maintenance plan update.

## **3. Criteria for Redesignation**

### **3.1. EPA Requirements**

The Act also provides a process whereby a state may petition EPA to redesignate a nonattainment area as attainment. The criteria for redesignating a nonattainment area to attainment are as follows:

- EPA must determine that the NAAQS have been attained.
- The applicable implementation plan must be fully approved by EPA under Section 110(k) of the Act.

- EPA must determine that the improvement in air quality is due to permanent and enforceable reductions in emissions.
- The state must meet all applicable requirements for the area under Section 110 and Part D of the Act.
- EPA must fully approve a maintenance plan, including contingency measures, for the area under Section 175A of the Act.

On July 18, 1997, the Environmental Protection Agency (EPA) promulgated the new 8-hour National Ambient Air Quality Standard for ozone. EPA published, on April 30, 2004 (69 FR 23858) a list of nonattainment areas for Virginia that included Northern Virginia, Fredericksburg, Richmond, and Hampton Roads. The Hampton Roads area was classified a marginal nonattainment area based on the 8-hour standard and data from the area's ozone monitoring sites.

### **3.2. Virginia's Approach**

Redesignation for the Hampton Roads nonattainment area is being pursued because the Commonwealth is able to:

- Provide sufficient evidence that the ozone air quality standard has been attained based on the past three year average of air monitoring data (2003, 2004, and 2005).
- Provide assurances that the SIP has been or will be fully approved by EPA under Section 110(k) of the Act.
- Provide assurances that ozone reductions are attributable to permanent and enforceable measures (such as Tier 2 engine standards) not for temporary reasons (such as an economic downturn or unusually favorable meteorological conditions).
- Meet all applicable requirements for the area under Section 110 and Part D of the Act that are due on the date of the redesignation request.
- Provide an approvable maintenance plan, including contingency measures, for the area under Section 175A of the Act that relies on existing enforceable federal and state control measures to maintain emissions at the 2005 levels.

The following document delineates specific EPA requirements and Virginia's demonstration that it meets the above criteria. A detailed description of the inventories presented in the redesignation request and the maintenance plan is contained in the Technical Support Document. The 10-year maintenance plan is included as a separate document and includes the mobile source budget. EPA requirements described herein are based on EPA policy as set out in the September 4, 1992 EPA memorandum, "Procedures for Processing Requests to Redesignate Areas to Attainment," and the May 10, 1995 EPA memorandum, "Reasonable Further Progress, Attainment Demonstration, and Related Requirements for Ozone Nonattainment Areas Meeting the Ozone National Ambient Air Quality Standard," as well as discussion with EPA's Region III Office - Air Protection Division.

## **4. Evidence of NAAQS Compliance**

### **4.1. EPA Requirements**

The state must provide sufficient evidence that the NAAQS have been attained. For the 8-hour ozone standard, the average of three years of data for the annual fourth highest monitored 8-hour value must show compliance with the standard. In making the demonstration, ambient air quality data, which is the product of ambient monitoring representative of the area of highest concentration, should be used. The data should be collected and quality-assured in accordance with 40 CFR Part 58, and recorded in the EPA Aerometric Information Retrieval System (AIRS) in order for it to be available to the public for review. EPA will verify that the integrity of the air quality monitoring network has been preserved. Finally, monitors must meet all valid data collection criteria.

### **4.2. Virginia's Approach**

Following EPA guidance, three years of ozone air quality monitoring data were selected for analysis: 2003, 2004, and 2005. The Hampton and Suffolk – TCC monitoring sites had the highest three-year average of the fourth highest daily maximum ozone 8-hour averages and are therefore used to make air quality determinations. Table 4.2-1 shows the fourth highest 8-hour average for each of the three years for all monitors in the area as well as the three year average for each monitor. These data are:

- the product of ambient monitoring representative of the area of highest concentration,
- collected and quality-assured in accordance with 40 CFR 58,
- recorded in AIRS, and
- in compliance with all valid data collection criteria.

The area is in compliance with the NAAQS for ozone and meets this EPA criterion for redesignation since the three year average from 2003 through 2005 does not exceed the ozone limit.

**TABLE 4.2-1**  
**Hampton Roads Area Fourth Highest 8-hour Average Values**

<b>Monitor</b>	<b>AIRS ID #</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>3-Year Average</b>
Hampton	516500004	83	74	78	<b>78</b>
Suffolk – TCC	518000004	83	74	77	<b>78</b>
Suffolk – Holland	518000005	79	75	78	<b>77</b>

*SOURCE: Virginia Department of Environmental Quality (DEQ) 2006 Richmond, VA: DEQ, Monitoring Division*

## **5. Full SIP Approval**

### **5.1. EPA Requirements**

The state must provide assurances that the applicable implementation plan has been fully approved by EPA under § 110(k) and must satisfy all requirements that apply to the area. Approval action on SIP elements and the redesignation request may occur simultaneously. An area cannot be redesignated if a required element of its plan is the subject of a disapproval; a finding of failure to submit or to implement the SIP; or partial, conditional, or limited approval. This does not mean that earlier issues with regard to the SIP will be reopened.

### **5.2. Virginia's Approach**

Most of the Hampton Roads area was subject to federal ozone requirements under the 1-hour standard. The cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg as well as the counties of James City and York were maintenance areas under the 1-hour ozone standard. These areas have been subject to SIP submittals for the 1-hour ozone ambient air quality standard. The counties of Gloucester and Isle of Wight were added to create the 8-hour Hampton Roads nonattainment area. These areas were in attainment with the 1-hour standard and therefore had no requirements under that ambient air quality standard. The applicable portions of the implementation plan have been fully approved by EPA under § 110(k) of the Act for the most part; however, some submittals are not approved. The submittals fall into two general categories as explained below. These submittals meet EPA criteria for approval. If EPA takes action within the time frames cited in the Act, the approval of the submittals should be complete and final by the time that this redesignation request has been analyzed and approved by EPA, thus making this redesignation criterion complete.

#### **5.2.1. Pre-1990 Amendments Submittals**

The primary submittal in this category was a major recodification of the regulations submitted in 1985. Additionally, a permit variance was issued to the Norfolk Naval Base Exchange Service Station, with a state effective date of August 6, 1979, final EPA approval August 17, 1981.

#### **5.2.2. Post-1990 Amendments Submittals**

The submittals that fall in this category consist of those made to meet specific requirements of the 1990 Amendments.

##### **5.2.2.1. Post-1990 amendment submittals that have been approved by EPA into the SIP**

###### Regulatory

- Corrections to existing regulatory program requiring controls for certain source types for which EPA has defined reasonably available control technology in guideline documents: submitted to EPA May 10, 1991; final EPA approval March 31, 1994.
- Requirement for annual statements of emissions from industries and businesses: submitted to EPA November 4, 1992; final EPA approval May 2, 1995.
- Open burning: submitted to EPA April 26, 1996; final EPA approval March 12, 1997.

- Procedures to determine if federally financed projects are in conformity with air quality plans (general conformity): submitted to EPA January 27, 1997; final EPA approval October 21, 1997.
- Clean fuel fleets: submitted to EPA May 1, 1996, withdrawn and NLEV substituted May 27, 1999, final EPA approval December 28, 1999.
- Requirement for permits for new and expanding major industries with provisions for meeting a specific offset ratio for reducing existing emissions and compliance with the lowest achievable emission rate: submitted to EPA November 9, 1992, final EPA approval September 21, 1999; amendments submitted June 7, 1999, final EPA approval April 21, 2000.

#### Plans

- Comprehensive inventory of emissions: Virginia's emissions inventory is updated and approved by EPA annually.
- Redesignation request and maintenance plan: submitted to EPA August 27, 1996; final EPA approval June 26, 1997.
- Mobile emissions budget for redesignation request and maintenance plan: submitted to EPA August 29, 1996; final EPA approval June 26, 1997.

Other - Photochemical assessment monitoring stations (PAMS): submitted to EPA November 15, 1994; final EPA approval September 11, 1995.

### **5.2.2.2. Post-1990 amendment submittals currently in process**

These submittals meet EPA criteria for approval. If EPA takes action within the time frames cited in the Act, the approval of the submittals should be complete and final by the time that this redesignation request has been analyzed and approved by EPA, thus making this redesignation criterion complete.

#### Regulatory

- Procedures to determine if systems level highway plans and other federally financed projects are in conformity with air quality plans (transportation conformity): submitted to EPA January 20, 1997; deemed complete by operation. EPA has not taken action on this submittal. In the meantime, EPA has promulgated changes to the transportation conformity regulations. Virginia is in the process of incorporating these changes to the state regulation. Pending EPA approval of the state regulation, Virginia will continue to make transportation conformity determinations under the provisions of 40 CFR Part 93, subpart A.
- Requirement for permits for new and expanding major industries with provisions for meeting a specific offset ratio for reducing existing emissions and compliance with the lowest achievable emission rate: submitted to EPA December 16, 2003, EPA completeness determination February 13, 2004, final EPA approval pending.



- Rules covering annual emissions statements from VOC sources and VOC emission standards for existing stationary sources have been expanded into the Hampton Roads VOC Emissions Control Area to include those localities in the corresponding new 8-hour ozone nonattainment areas that were not previously listed: submitted to EPA September 12, 2006.

Plans – none.

## **6. Demonstration of Permanent and Enforceable Improvement**

### **6.1. EPA Requirements**

The state must be able to reasonably attribute its air quality improvements to emission reductions which are permanent and enforceable. Attainment resulting from temporary reductions in emission rates (such as reduced production or shutdown due to temporary adverse economic conditions) or unusually favorable meteorological conditions does not qualify.

In making this showing, the state should estimate the percent reduction (from the year that was used to determine the design value for designation and classification) achieved from federal and state measures. Estimates should consider factors such as emission rates and production capacities in order to show that the improvements are the result of implemented controls. The analysis should assume that sources are operating at permitted levels (or historic peak levels), unless evidence is presented that such an assumption is unrealistic.

### **6.2. Virginia's Approach**

Between 2002 and 2005, VOC emissions were reduced by 15 tons per day, NO<sub>x</sub> emissions were reduced by 48 tons per day, and CO emissions were reduced by 182 tons per day because of permanent and enforceable measures implemented by the Commonwealth and the federal government (see Table 6.2-1). Much of the reductions are the result of mobile source emission controls, specifically, those obtained from the National Low Emission Vehicle (NLEV) and Tier I programs. These mobile programs produced 17 tons/day of VOC reductions, 16 tons/day of NO<sub>x</sub> reductions, and 206 tons/day of CO reductions. However, some of these reductions served to offset emission increases in the point and area categories.

In the point source category, two coal fired utility boilers located at the Dominion Chesapeake Power Station, registration number 60163, were retrofitted between 2002 and 2005 with selective catalytic reduction (SCR) technology for the control of NO<sub>x</sub>. These units were retrofitted for a number of reasons. A federal consent order required the installation of two SCR units, one each on units 3 and 4 at this facility, starting in the year 2013. These units also have, as an applicable requirement, the NO<sub>x</sub> Budget Trading Program that took effect in 2004 so that the early installation of the required SCR units allowed the facility to more easily comply with this regulation. These units will be subject to the Clean Air Interstate Rule (CAIR) beginning in 2009. These controls resulted in the reduction of approximately 21 tons/day of NO<sub>x</sub> between 2002 and 2005 from this facility.

It should be noted that due to the NO<sub>x</sub> Budget Trading Program, and in future years the CAIR program, this area can reasonably expect to indirectly benefit in terms of improved regional air quality from less pollution being transported long distances.

The mobile source reductions were determined using MOBILE6.2 (EPA's mobile source emissions inventory model) and vehicle miles traveled data from the Virginia Department of Transportation. In all categories, reductions due to decreases in production levels or from unenforceable, voluntary controls were not included. The reduction estimates considered factors such as emission rates and production capacities in order to show that the improvements were the result of implemented controls, and assumed that sources operated at permitted levels. A detailed inventory description is contained in the Technical Support Document.

**Table 6.2-1.  
Total VOC, NO<sub>x</sub>, and CO Emissions for 2002 and 2005**

<b>Volatile Organic Compounds (VOC)</b>					
Year	Point	Area <sup>1</sup>	Nonroad	Mobile	Total
Year 2002	18.758	87.402	46.543	67.293	219.996
Year 2005	20.091	91.980	42.320	50.591	204.982
DIFF. (02-05)	1.333	4.578	-4.223	-16.702	-15.014
<b>Nitrogen Oxides (NO<sub>x</sub>)</b>					
Year	Point	Area	Nonroad	Mobile	Total
Year 2002	91.403	57.961	31.002	93.844	274.210
Year 2005	62.536	55.207	30.208	78.169	226.120
DIFF. (02-05)	-28.867	-2.754	-0.794	-15.675	-48.090
<b>Carbon Monoxide (CO)</b>					
YEAR	Point	Area	Nonroad	Mobile	Total
Year 2002	91.282	58.950	394.471	848.362	1,393.065
Year 2005	91.306	56.555	417.125	642.103	1,207.089
DIFF. (02-05)	0.024	1.605	22.654	-206.259	-181.976

<sup>1</sup> Area source category includes emissions from motor vehicle refueling.

## **7. Section 110(a)(2) and Part D Requirements**

### **7.1. EPA Requirements**

The state must meet all requirements of § 110(a)(2) and Part D that were applicable prior to submission of the complete redesignation request. When evaluating a redesignation request, EPA will not consider whether the state has met requirements that come due under the Clean Air Act after submittal of a complete redesignation request, although under § 175A(c), the requirements of Part D remain in force and in effect for the area until it is redesignated. Any requirements that came due prior to the submittal must be fully approved into the plan at or before the time EPA redesignates the area. § 172(c) requirements, which are

general requirements for nonattainment plans, must be met, as well. The state must also show that its SIP provisions are consistent with § 176(c)(4) conformity requirements. If a state does not have conformity procedures in place at the time it submits a redesignation request, it must commit to follow EPA's conformity regulation upon issuance.

## **7.2. Virginia's Approach**

Of the localities that make up the Hampton Roads Nonattainment Area, all cities and counties have been subject to federal ozone requirements with the exception of Gloucester and Isle of Wight. These areas were not considered to be part of the 1-hour ozone marginal nonattainment area and were not subject to § 110(a)(2) and Part D requirements for 1-hour ozone nonattainment areas. In addition, certain control measures that were developed to bring the 1-hour ozone marginal nonattainment area into compliance with the federal ozone standard at that time will continue to apply to James City, York, Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg. The state meets the § 110(a)(2) and Part D requirements that were applicable prior to redesignation submittal. Many of these requirements overlap or are identical. Specific information on submittal dates and EPA approval status is provided in Section 5.2.

### **7.2.1. Section 110(a)(2)**

The state has prepared and submitted SIP revisions or made commitments which meet the requirements of § 110(a)(2) of the Act. Key elements of the submittals are as follows:

- Enforceable emissions limitations and other control measures needed to meet Clean Air Act requirements.
- Monitoring, compiling, and analyzing ambient air quality.
- Preconstruction review of new stationary sources and expansions to existing ones.
- Adequate funding, staff, and implementation of SIP programs.
- Stationary source emissions monitoring and reporting.

### **7.2.2. Part D**

The state has also prepared and submitted SIP revisions which meet the requirements of Part D of the Act. Key elements of the Part D submittals are contained in Subpart 1 (Nonattainment Areas in General) and Subpart 2 (Additional Provisions for Ozone Nonattainment Areas), and are described below.

#### Subpart 1

Section 172(c), Nonattainment Plan Provisions, has been met by the SIP, as its requirements (such as demonstration of reasonable further progress and identification of pollutants to be allowed from new stationary sources) are identical to those found in § 110(a)(2) and Part D. Key § 172(c) requirements are as follows:

- Provisions for implementation of all reasonably available control measures.
- Demonstration of reasonable further progress.
- Comprehensive inventory of emissions.
- Identification and quantification of new source emissions.
- Permits for new and modified sources.
- Enforceable emissions limitations.
- Contingency measures.

Section 173(a) contains requirements for issuing permits, including offsets and the application of the lowest achievable emission rate (LAER).

Section 176 requires the state to develop transportation and general conformity procedures to be submitted as a SIP revision.

## Subpart 2

The specific requirements of §§ 182(a) through (d) have been met by the SIP. These sections require that certain specific control measures and other requirements be adopted and included in the SIP. A list of those that necessitated the adoption of state regulations is provided below. In addition, the state had to demonstrate that it would achieve a VOC emission reduction of 15% in moderate and above nonattainment areas. Finally, for moderate and above nonattainment areas, the SIP had to include an attainment demonstration by photochemical modeling in addition to the 15% emission reduction demonstration. In cases where the specific control measures shown below were inadequate to achieve the emission reductions or attain the air quality standard, the state was obligated to adopt other control measures as necessary to achieve this end.

### § 182(a) (all areas)

- Correct existing VOC regulatory program (controls on certain sources identified in EPA control technology guidelines).
- Requirement for annual statements of emissions from industries.
- Preconstruction review (permit) program for new industry and expansions (with variable major source definition, variable offset ratio for addition of new pollution, and special requirements for expansions to existing industry in serious areas).
- Offset ratio for addition of new pollution of 1.1 to 1.
- Procedures to determine if systems level highway plans and other federally financed projects are in conformity with air quality plans.

§ 182(b) (moderate and above areas)

- Requirement for controls for all VOC sources identified in EPA control technology guidelines.
- Case by case control technology determinations for all major VOC and NO<sub>x</sub> sources not covered by a EPA control technology guideline.
- Requirement for controls for all major (100 tons per year) VOC sources.
- Requirement for controls for all major (100 tons per year) NO<sub>x</sub> sources.
- Offset ratio for addition of new pollution of 1.15 to 1
- Requirement for vapor recovery controls for emissions from filling vehicles with gasoline (Stage II).
- Basic motor vehicle emissions inspection and maintenance (I/M) program.

§ 182(c) (serious and above areas)

- Requirement for controls for all major (50 tons per year) VOC sources.
- Requirement for controls for all major (50 tons per year) NO<sub>x</sub> sources.
- Offset ratio for addition of new pollution of 1.2 to 1.
- Enhanced monitoring (source emissions) program.
- Correct existing motor vehicle emissions I/M program.
- Enhanced motor vehicle emissions I/M program.
- Clean fuel fleet vehicle program.
- Oxygenated fuels program.

§ 182(d) (severe and above areas)

- Requirement for controls for all major (25 tons per year) VOC sources.
- Requirement for controls for all major (25 tons per year) NO<sub>x</sub> sources.
- Offset ratio for addition of new pollution of 1.3 to 1.
- Requirement for major sources to pay a penalty fee if area does not attain air quality standard by attainment date.
- Transportation control strategies and measures to offset emissions growth from VMT.

## **8. Develop a Maintenance Plan**

## **8.1. EPA Requirements**

Section 107(d)(3)(E) stipulates that for an area to be redesignated, EPA must fully approve a maintenance plan that meets the requirements of Section 175A. A state may submit both the redesignation request and the maintenance plan at the same time, and rulemaking on both may proceed on a parallel track. All applicable nonattainment area requirements remain in place. The maintenance plan constitutes a SIP revision, and must provide for maintenance of the relevant NAAQS in the area for at least 10 years after redesignation, including additional measures to ensure prompt correction of any violation of the NAAQS. The state must also submit a SIP revision 8 years after the original redesignation request is approved to provide for maintenance of the NAAQS for an additional 10 years following the first 10-year period.

EPA requires the following provisions to ensure maintenance of the NAAQS:

- The state must develop an attainment emissions inventory to identify the level of emissions in the area which is sufficient to attain the NAAQS.
- A state may generally demonstrate maintenance by showing that future emissions of a pollutant or its precursors will not exceed the level of the attainment inventory over the 10-year period following redesignation.
- Once an area has been redesignated, the state must continue to operate an appropriate air quality monitoring network in order to verify the area's attainment status.
- The state must ensure that it has the legal authority to implement and enforce all measures necessary to attain and maintain the NAAQS. Continued attainment must be verified by the state by indicating how maintenance plan progress will be tracked.
- Contingency measures must be available to promptly correct any NAAQS violation.

## **8.2. Virginia's Approach**

Virginia has developed a maintenance plan that meets all EPA requirements and demonstrates that, because of permanent and enforceable measures, emissions over the 10 years following redesignation approval will remain within the regional emissions budget while allowing for growth in population and vehicle miles traveled. The period covered by this maintenance plan is 2005-2018.

The state has developed an emissions inventory in accordance with EPA guidance that identifies the level of emissions sufficient to achieve the NAAQS. The attainment inventory consists of the actual emissions for the year during the three-year period associated with the monitoring data showing attainment of the ozone standard, that is, 2005. The plan includes a demonstration that emissions will remain within the 2005 levels for a 10-year period by keeping in place key elements of the current federal and state regulatory programs and expanding certain other programs into Isle of Wight County and Gloucester County. The programs which are currently in effect are as follows:

- The National Low Emission Vehicle (NLEV) program;
- Open burning restrictions for James City, York, Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg;
- Control Technology Guideline (CTG) Reasonably Available Control Technology (RACT) requirements for James City, York, Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg;
- Reformulated gasoline requirements for James City, York, Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg;
- Stage I gasoline vapor recovery requirements for James City, York, Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg;
- Motor vehicle fleet turnover with new vehicles meeting the Tier 2 standards; and
- Low sulfur gasoline.

Additionally, the following programs are in place and either effective or are due to become effective:

- Heavy duty diesel on road (2004/2007) and non-road emissions standards (2008); and
- Low sulfur on-road (2006) and off-road diesel fuel (2007/2010);

Lastly, to further improve air quality and to provide room for industrial and population growth while maintaining emissions in the area to less than 2005 levels, the Commonwealth of Virginia has initiated rulemaking to implement the following programs:

- Implement the Stage I requirements of 9 VAC 5 Chapter 40, Article 37 in Isle of Wight and Gloucester;
- Implement open burning restriction requirements of 9 VAC 5 Chapter 40, Article 40 in Isle of Wight and Gloucester, and
- Implement existing source CTG RACT requirements of 9 VAC 5 Chapter 40, Articles 5-6, 24-36, and 39 in Isle of Wight and Gloucester.

The schedule for implementation of these measures is as follows:

- For Stage I and the CTG RACT requirements, VDEQ requested approval from the Virginia State Air Pollution Control Board to promulgate these regulatory changes for public comment in June of 2005. For open burning, VDEQ requested approval from the Virginia State Air Pollution Control Board to promulgate these regulatory changes for public comment in March of 2005.
- VDEQ initiated public participation requirements in November of 2005.
- VDEQ requested final approval from the State Air Pollution Control Board to adopt these regulatory changes in June of 2006.
- Upon completion of executive review, the regulatory changes will become effective. Completion of executive review is expected to happen in December of 2006.

During the public comment period for the maintenance plan, comments were received concerning the expansion of the open burning regulation. The comments suggested that for Isle of Wight and Gloucester a waiver period be established for the open burning regulation so that the regulation will not go into effect in the summer of 2007. These comments have been examined, and in response, the Virginia State Air Pollution Control Board will be petitioned to allow a waiver for the open burning regulation such that the regulation will not be implemented in Gloucester and Isle of Wight until May, 2009. The purpose of this waiver is to allow the local jurisdictions time to ensure that all local regulations and ordinances support alternative methods of wood disposal. No effect on the emissions inventory or ability of the maintenance area to meet its attainment goals is anticipated as a result of this action.

Virginia will also continue to operate and maintain its air quality monitoring network. The Commonwealth of Virginia has the legal authority to implement and enforce specified measures necessary to attain and maintain the NAAQS.

In addition to maintaining key elements of its regulatory program in place, the state will acquire air quality and source emissions data to track attainment and maintenance. The maintenance plan includes contingency measures, as necessary, to promptly correct any NAAQS violation that occurs after redesignation of the area. The contingency measures may include implementing area source VOC control measures, implementing non-CTG VOC RACTS, and implementing non-CTG NO<sub>x</sub> RACTS.